In the Drawings

Replacement Sheets are submitted herewith formalizing the Drawings in the application.

REMARKS

The Office Action mailed July 14, 2005, has been received and reviewed. Claims 1 through 12 are currently pending in the application. Claims 1 through 12 are rejected. Applicant has amended Claim 1 and 8, and has added Claims 13-20. Applicant respectfully requests reconsideration of the application as amended herein.

In the Drawings

Replacement Sheets are submitted herewith to formalize the Drawings in the application.

35 U.S.C. § 102(b) Anticipation Rejections

Anticipation Rejection Based on U.S. Patent No. 4,561,009 to Yonezawa et al.

Claims 1 through 3, 5 and 12 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yonezawa et al. (U.S. Patent No. 4,561,009). Applicant respectfully traverses this rejection, as hereinafter set forth.

Yonezawa et al. fails to describe each and every element of independent Claim 1. For instance, Yonezawa et al. does not describe "an insulative layer disposed over a top surface of the resistive layer having outer edges substantially aligned with side surfaces of the resistive layer" as recited in Claim 1. The failure of Yonezawa et al. to describe such recitations precludes an anticipation rejection of Claim 1 because "a claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

The structure illustrated in Fig. 9B of Yonezawa et al., and which is relied upon by the Action as the support for the anticipation rejection of Claims 1 through 3, 5 and 12, does not teach or suggest the recitations of Claim 1. Namely, the layer of PSG (31) which the Action equates to an insulative layer is shown to extend over the entire expanse of the alumina layer (33), which is equated to the resistive layer recited in Claim 1. Claim 1, however, includes recitations that the insulative layer has "outer edges substantially aligned with side surfaces of the resistive layer." Fig. 9B of Yonezawa et al. does not illustrate a structure that anticipates such

recitations. As such, Fig. 9B does not support an anticipation rejection of Claim 1 because all of the recitations of Claim 1 are not taught or suggested by Yonezawa et al. *See, Verdegaal Brothers v. Union Oil Co. of California*, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

To support an anticipation rejection "the identical invention must be shown in as complete detail as is contained in the claim." *Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Fig. 9B of Yonezawa et al. fails to illustrate an identical structure as that recited in Claim 1. Furthermore, the Yonezawa et al. fails to describe an insulative layer having "outer edges substantially aligned with side surfaces of the resistive layer." This failure precludes an anticipation rejection of Claim 1. Applicant respectfully requests that the 35 U.S.C. § 102(b) anticipation rejection of Claim 1 based upon Yonezawa et al. be withdrawn.

Claims 2, 3, 5, and 12 depend from independent Claim 1. As dependent claims, each of Claims 2, 3, 5, and 12 inherit the recitations of Claim 1 by dependency. Yonezawa et al.'s failure to teach or suggest all of the recitations of Claim 1 carries over to Claims 2, 3, 5, and 12. Thus, Yonezawa et al. fails to anticipate the dependent claims of Claim 1 because Yonezawa et al. fails to anticipate the independent claim from which they depend.

For at least the foregoing reasons, Applicant respectfully requests that the 35 U.S.C. § 102(b) anticipation rejection of Claims 1 through 3, 5, and 12 based upon Yonezawa et al. be withdrawn.

Anticipation Rejection Based on U.S. Patent No. 5,594,297 to Shen et al.

Claims 8 through 11 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Shen et al. (U.S. Patent No. 5,594,297). Applicant respectfully traverses this rejection, as hereinafter set forth.

As support for the anticipation rejection based upon Shen et al., the Action alleges that "the applicant's disclosure does not disclose an insulating layer having the exact dimensions of the column lines, and therefore 'substantially conforming to lateral dimensions' is interpreted as allowing a liberal difference in lateral dimensions." *See, Action* at p. 3, ¶ 3. Applicant disagrees.

Amended Claim 8 recites, in part, a field emission device comprising column lines, "the column lines having an insulating layer disposed thereon over a top surface thereof, wherein the

insulating layer substantially exactly overlies the column lines." The amendment to Claim 8 is supported by the Specification, and in particular, at least at pages 9 and 10 of the Specification.

Shen et al. does not describe an insulating layer that "substantially exactly overlies the column lines" as recited in amended Claim 8. The Action alleges that the insulating layer 70 of Shen et al. "can be considered to substantially conform to the column lines (20), as the insulating layer does not extend much farther than the column line." However, as illustrated in Fig. 1 of Shen et al., the insulating layer 70 extends well beyond the column lines 20 and over the edges or sides of the resistive layer 40. The insulating layer 70 of Shen et al. is also disposed over sections of the resistive layer 40 that do not overlie a column line 20. Shen et al. therefore fails to teach or suggest an insulating layer in as complete detail as recited in Claim 8. The lack of such detail precludes an anticipation rejection because an anticipation rejection is only supported if the identical invention is shown in as complete detail as is contained in the claim. *See, Richardson v. Suzuki Motor Co.*, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989). Shen et al. does not satisfy the necessary requirements for maintaining an anticipation rejection of Claim 8.

Claims 9 through 11 depend from Claim 8. As dependent claims, Claims 9 through 11 inherit the recitations of Claim 8. The failure of Shen et al. to anticipate Claim 8 precludes an anticipation rejection of dependent Claims 9 through 11 as well.

For at least the foregoing reasons, Applicant requests that the 35 U.S.C. § 102(b) anticipation rejection of Claims 8 through 11 based upon Shen et al. be withdrawn.

35 U.S.C. § 103(a) Obviousness Rejections

Obviousness Rejection Based on U.S. Patent No. 4,561,009 to Yonezawa et al. in view of U.S. Patent No. 5,521,461 to Garcia

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yonezawa et al. (U.S. Patent No. 4,561,009) in view of Garcia (U.S. Patent No. 5,521,461). Applicant respectfully traverses this rejection, as hereinafter set forth.

Claim 6 is dependent upon Claim 1. As such, Claim 6 is not obvious because Claim 1 is not obvious. "If an independent claim is nonobvious under 35 U.S.C. 103, then any claim

depending therefrom is nonobvious." *See*, M.P.E.P. § 2143.03 (citing, *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

Furthermore, Claim 6 inherits the recitations of Claim 1. In particular, the insulative layer recited in Claim 6 "comprises silicon nitride," and by inheritance from Claim 1, the insulative layer has "outer edges substantially aligned with side surfaces of the resistive layer." Yonezawa et al. and Garcia fail to teach or suggest each of these recitations.

Yonezawa et al. admittidely "fails to exemplify an insulative layer of silicon nitride." *See, Action* at p. 4, ¶ 5. Instead, the combination of references relies upon Garcia to allegedly teach an insulating layer of an FED made of either silicon oxide or silicon nitride. However, neither reference teaches nor suggests an insulative layer having "outer edges substantially aligned with side surfaces of the resistive layer" as recited in Claim 1, from which Claim 6 depends. A *prima facie* obviousness rejection requires that "the prior art reference (or references when combined) must teach or suggest all the claim limitations." *See,* M.P.E.P. § 706.02(j) (*citing, In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). The failure of the combination of references to teach an insulative layer as recited precludes a *prima facie* obviousness rejection under 35 U.S.C. § 103(a).

For at least the foregoing reasons, the 35 U.S.C. § 103(a) obviousness rejection of Claim 6 in light of the combination of Yonezawa et al. and Garcia should be withdrawn.

Obviousness Rejection Based on U.S. Patent No. 4,561,009 to Yonezawa et al. in view of U.S. Patent No. 4,855,636 to Busta et al.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Yonezawa et al. (U.S. Patent No. 4,561,009) in view of Busta et al. (U.S. Patent No. 4,855,636). Applicant respectfully traverses this rejection, as hereinafter set forth.

Claim 7 depends from Claim 1. Claim 1 is not obvious. As a dependent claim of a nonobvious independent claim, Claim 7 is also nonobvious. *See*, *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988).

In addition, as a dependent claim, Claim 7 inherits the recitations of Claim 1. Neither Yonezawa et al. or Busta et al. teach or suggest an insulative layer having "outer edges substantially aligned with side surfaces of the resistive layer" as recited in Claim 1. The failure of the two references to teach or suggest all of the recitations of Claim 7 and the independent claim from which it depends precludes a *prima facie* obviousness rejection of Claim 7.

For at least the foregoing reasons, Claim 7 is nonobvious and the 35 U.S.C. § 103(a) obviousness rejection based upon the combination of Yonezawa et al. and Busta et al. should be withdrawn.

Obviousness Rejection Based on Applicant's Admission of the Prior Art

Claims 1, 2, 4, 5, and 8 through 12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's admission of the prior art. Applicant respectfully traverses this rejection, as hereinafter set forth.

The Action alleges that the Applicant's admission of prior art as illustrated by Fig. 1 of the Specification and the corresponding description makes obvious Claim 1, 2, 4, 5, and 8 through 12. In particular, with respect to independent Claims 1 and 8, the Action alleges that the dielectric layer 20 is equivalent to an insulative layer. However, the Action fails to acknowledge that Fig. 1 is a cross-sectional view of a prior art device. As such, the dielectric layer 20 would not make obvious the insulative layers recited in independent Claims 1 and 8.

In particular, Claim 1 recites "an insulative layer disposed over a top surface of the resistive layer having outer edges substantially aligned with side surfaces of the resistive layer." The dielectric layers 20 of the prior art device illustrated in Fig. 1 are not "substantially aligned with side surfaces of the resistive layer." Although the cross-sectional illustration shows a portion of the dielectric layers disposed over the resistive layers, the dielectric layers continue beyond the side surfaces of the resistive layer in the field emission device. For instance, the dielectric layers illustrated in Fig. 1 would extend past the sides surfaces of the resistive layer in the same manner that the dielectric layers 114 of embodiments of the present invention extend past the side surfaces of the resistive layer. In comparison, the dielectric layers 114 illustrated in Fig. 3 extend beyond the side surfaces of the resistive layers in the present invention. The

dielectric layers 20 of the prior art are no different and extend past the side surfaces of the resistive layers. Thus, the Applicant's admission of the prior art does not make obvious Claim 1 because all of the recitations of Claim 1 are not taught or suggested by the prior art.

Claim 8, which is also an independent claim, recites "the column lines having an insulating layer disposed thereon over a top surface thereof, wherein the insulating layer substantially exactly overlies the column lines." The dielectric layer 20 illustrated in Fig. 1 does not exactly overlie the column lines because a non-cross-sectional view reveals that the dielectric layer 20 extends beyond the side surfaces of the resistive layer. Hence, the admitted prior art does not teach or suggest all of the recitations of Claim 8. This lack of teaching precludes a *prima facie* obviousness rejection of Claim 8. *See, In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991).

Furthermore, absent Applicant's invention, there is no motivation in the admitted art which makes obvious Applicant's claims. Applicant's description of the prior art devices distinguishes the problems associated with those devices and recites at least some of the benefits of the inventive devices recited in the Claims. For example, the insulative layer according to embodiments of the present invention "helps reduce the possibility of electrical shorts between the column line and the row line structure of the cathode assembly" and allows "the use of a thinner subsequent dielectric layer." There is no suggestion in the art, or in Applicant's admitted prior art, that would lead one of skill in the art to modify the prior art to arrive at the FEDs recited in the Claims of the present invention. A lack of such motivation precludes a *prima facie* obviousness rejection of the Claims. *See*, M.P.E.P. § 2142 (citing, *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)).

Independent Claims 1 and 8 are not obvious in view of Applicant's admitted art for at least the reasons stated herein. Claims 2, 4, 5, 11, and 12 depend from Claim 1 or Claim 8. As dependent claims of nonobvious independent claims, each of those claims are also nonobvious. *See, In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)).

For at least the foregoing reasons, Claims 1, 2, 4, 5, and 8 through 12 are not obvious in light of Applicant's admitted prior art.

Obviousness Rejection Based on Applicant's Admission of the Prior Art in view of U.S. Patent No. 5,521,461 to Garcia

Claim 6 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Applicant's admission of the prior art in view of Garcia (U.S. Patent No. 5,521,461). Applicant respectfully traverses this rejection, as hereinafter set forth.

Claim 6 depends from Claim 1. As a dependent claim of a nonobvious independent claim, Claim 6 is also nonobvious. *See, In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988). Therefore, the 35 U.S.C. § 103(a) rejection of Claim 6 in light of the Applicant's admitted prior art and Garcia should be withdrawn.

Additionally, the Applicant's admitted prior art fails to teach all of the recitations of Claim 1 as previously discussed. This failure precludes a *prima facie* obviousness rejection of Claim 1 and Claim 6, which depends from Claim 1.

For at least the foregoing reasons the obviousness rejection of Claim 6 should be withdrawn.

ENTRY OF AMENDMENTS

The amendments to Claims 1 and 8 above should be entered by the Examiner because the amendments are supported by the as-filed specification and drawings and do not add any new matter to the application. Further, the addition of Claim 13-20 should be entered by the Examiner because Claims 13-20 are supported by the as-filed specification and drawings and do not add any new matter to the application.

CONCLUSION

Claims 1-20 are believed to be in condition for allowance, and an early notice thereof is respectfully solicited. Should the Examiner determine that additional issues remain which might be resolved by a telephone conference, he is respectfully invited to contact Applicant's undersigned attorney.

Respectfully submitted,

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